

DERWENT-ACC-NO: 2005-190797

DERWENT-WEEK: 200520

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TITLE: Production of ceria-based oxygen ionic conductors doped
with Gd_2O_3

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PRIORITY-DATA: 2003KR-0012474 (February 27, 2003)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
KR 2004077081 A	September 4, 2004	N/A	001	C01F 017/00

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
KR2004077081A	N/A	2003KR-0012474	February 27, 2003

INT-CL (IPC): C01F017/00

ABSTRACTED-PUB-NO: KR2004077081A

BASIC-ABSTRACT:

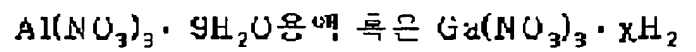
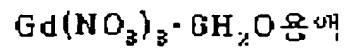
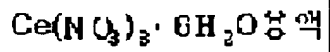
NOVELTY - A production method of Al_2O_3 (or Ga_2O_3)- Gd_2O_3 - CeO_2 powder for CeO_2 -based oxygen ionic conductors doped with Gd_2O_3 , is provided to form fine particles and lower sintering temperature by co-precipitating oxygen ionic conducting materials and sintering aid materials.

DETAILED DESCRIPTION - The CeO_2 -based oxygen ionic conductors doped with Gd_2O_3 are produced by the following steps of: (i) dissolving cerium nitrate, gadolinium nitrate, and aluminum nitrate in water, wherein the raw materials are measured in the proportions corresponding to $(\text{Ce}_{0.8}\text{Gd}_{0.2}\text{O}_{1.9})_{1-x}(\text{Al}_2\text{O}_3)_x$ ($x=0.01-0.05$); (ii) forming coprecipitates by adding $(\text{NH}_4)_2\text{C}_2\text{O}_4 \cdot x\text{H}_2\text{O}$ and NH_4OH solution to the mixed solution until the pH of the solution is 10; (iii) washing coprecipitates with water and ethanol; (iv) drying at 120°C and calcining at 700°C for 1hr; (v) sieving dried powder to be less than 325mesh in size and pressing under pressure of $2000\text{kg}/\text{cm}^2$; (vi) sintering pressed compacts at 1400°C for 5hrs.

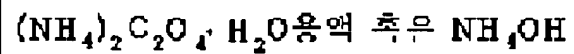
CHOSEN-DRAWING: Dwg.1/10

DERWENT-CLASS: E33 L02 L03

CPI-CODES: E34-C03; E34-E; E35-F; L02-A04; L02-G07E; L03-A02C;



제 1 장



남

세 적

문, 예답을

어 괴

권 소

120℃ 10시간

하 ㅈ

700℃ 1시간

결정

예단문

건 소

120 t.

제.가. 품

325 mesh

심 령

2000 kg/cm²

소선

1400°C, 5시 간